Letter to Editor

Increased risk of diabetes with statin use: Reconsidering the use of high potency statins

Sir,

Statin, or 3-hydroxy-3-methylglutaryl coenzyme a reductase inhibitor, therapy is an effective and essential part of the cardiovascular management of many patients at risk of atherosclerotic diseases, however concerns have been raised over the possible association of statin use with the development of new cases of diabetes.[1] Statins are one of the most commonly prescribed drugs[2] and the sheer number of people at risk of developing atherosclerotic disease, and therefore warranting statin therapy, makes even the slightest of risk of diabetes associated with statin therapy a major public health concern.

A retrospective cohort study examined the records of 471 250 new statin users, aged 66 or older and without a history of diabetes, to assess whether the use of statins was associated with an increased risk of developing diabetes.[3] The results of this study showed that in comparison with pravastatin, the risk of diabetes was higher with the use of some statins, including atorvastatin (adjusted Hazard Ratio (HR) 1.22, 95% Confidence Interval (CI) 1.15-1.29), rosuvastatin (adjusted HR 1.18, 95% CI 1.10-1.26), and simvastatin (adjusted HR 1.10, 95% CI 1.04-1.17), but not others, fluvastatin (adjusted HR 0.95, 95% CI 0.81-1.11) or lovastatin (adjusted HR 0.99, 95% CI 0.86-1.14). The results of this study suggest that high potency statins (atorvastatin, rosuvastatin and simvastatin) are associated with a higher risk of developing diabetes as compared to the low potency statins (fluvastatin, lovastatin and pravastatin).

A meta-analysis based on five randomized controlled trials and 32 752 participants investigated whether a higher dose of statin was associated with a higher risk of developing diabetes as compared to a lower dose.[4] The results of this analysis showed that in comparison to a lower dose statin therapy, there was a higher chance of patients on a higher dose, more intensive statin therapy to develop diabetes (Odds Ratio 1.12, 95% CI 1.04-1.22). Therefore, an increase in the dose of statins increases the risk of developing diabetes.

Considering that the risk of diabetes is higher with the usage of higher potency statins and with their higher dosage, it seems appropriate that a conscious effort be made to meet the patients' needs with the lowest potency statins and at the lowest dose. Although statins are an essential part of the prescription of many patients, these studies point that the risk of developing diabetes with these drugs can be minimized. In order to reduce the incident cases of diabetes attributable to statins, there needs to be sensible prescription of statins; with the prescription starting from the lowest dose of the low potency statins. It may also seem justified at this point to suggest that it is time to start investigating newer and safer interventions to correct the dyslipidemia for which statins are prescribed.

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REFERENCES

1. Sattar N, Preiss D, Murray HM, Welsh P, Buckley BM, de Craen AJ, *et al*. Statins and risk of incident diabetes: A collaborative meta-analysis of randomised statin trials. Lancet 2010;375:735-42.
2. Camnitz W, Burdick MD, Strieter RM, Mehrad B, Keeley EC. Dose-dependent Effect of Statin Therapy on Circulating CXCL12 Levels in Patients with Hyperlipidemia. Clin Transl Med 2012;1:23.
3. Carter AA, Gomes T, Camacho X, Juurlink DN, Shah BR, Mamdani MM. Risk of incident diabetes among patients treated with statins: Population based study. BMJ 2013;346:f2610.
4. Preiss D, Seshasai SR, Welsh P, Murphy SA, Ho JE, Waters DD, *et al*. Risk of incident diabetes with intensive-dose compared with moderate-dose statin therapy: A meta-analysis. JAMA 2011;305:2556-64.

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